Commonwealth of Kentucky
Division for Air Quality

RESPONSE TO COMMENTS

ON THE TITLE V DRAFT PERMIT V-07-018
TENNESSEE VALLEY AUTHORITY
PARADISE FOSSIL PLANT
DRAKESBORO, KY
AUGUST 15, 2007
PERMIT REVIEWER, MARTHA M. ALLMAN
SOURCE I.D.: 21-177-00006
AGENCY INTEREST: 3239
ACTIVITY: APE2007001

BACKGROUND

On April 9, 2007, Tennessee Valley Authority (TVA) submitted an update to the Title V Permit application for its Paradise Fossil Plant (PAF) originally submitted in May 1996. The update was provided to address objections made by the EPA to the proposed permit, V-04-024, initially issued on December 29, 2004. TVA requested that this permit be withdrawn on June 23, 2006. To address EPA objections, TVA has agreed to reduce the Unit 3 limit of 5.4 lbs SO_2/MMBtu to 1.2 lbs SO_2/MMBtu, effective when the unit is scrubbed and discharging flue gas through the new scrubber stack. The new scrubber for Unit 3 is a single module unit and was constructed with by-pass capabilities to the original stack. When Unit 3 is not scrubbed, the emission limit will be 3.1 lbs SO_2/MMBtu, effective when discharging flue gas through the existing Unit 3 stack.

TVA addressed another EPA objection by removing from the application two lime storage silos (formerly EQPT15, renumbered as Emission Units 53-54) as these are decommissioned and will not be returned to service. TVA further agreed to additional monitoring requirements for the hours of operation and limestone throughput for emission Unit 3 Limestone Handling system (formerly GACT 10, renumbered as Emission Units 75 and 76).

In addition the facility has provided updates and subsequent permitted modifications that were either missed in the original Title V application but surfaced from their latest auditing. The updates include new activities associated with the addition of the Coal Processing system, updated forms for the addition of the Selective Catalytic Reduction (SCR) units on each heat exchanger, the Unit 3 Limestone Handling system, updates to the Unit 3 section of the application to address the new scrubber, and the addition of the Coal Fines Recovery Process. These units were constructed pursuant to 401 KAR 51:017, Section 22.

FACILITY DESCRIPTION

The facility consists of three cyclone-furnace coal-fired boilers, three distillate oil-fired heating boilers, eleven distillate oil-fired space heaters, three natural-draft cooling towers, and solid fuel, limestone, ash, and gypsum handling processes.

Coal is delivered by rail, truck and barge. Currently, most of the coal is non-compliance coal and is cleaned in a coal wash plant. TVA is currently co-firing coal fines and plans to begin co-firing wood waste. Waste products from sawmills and other woodworking facilities will be burned at a maximum of 5% of the boilers heat input (13% by weight).

All three coal-fired boilers are equipped with staged overfire air and selective catalytic reduction modules for nitrogen oxides emission control. Boiler Units 1 and 2 are equipped with venturi-type limestone slurry flue gas desulfurization scrubbers. Boiler Unit 3 is equipped with an electrostatic precipitator and a wet limestone FGD scrubber. Fly ash collected by the ESP is sluiced by the wet fly ash handling system to the fly ash pond for disposal. Bottom ash (slag) is wet sluiced to a storage pond, dewatered and then reclaimed for sale to an offsite customer. Gypsum waste slurry effluent from the limestone FGD scrubbers is wet sluiced to the onsite stacking area for disposal.

PUBLIC AND U.S. EPA REVIEW:

On August 4, 2007, the public notice on availability of the draft permit and supporting material for comments by persons affected by the plant was published in the *Central City Greenville Leader News*. The public comment period expired 30 days from the date of publication. Comments were received from Robert Ukeiley, Attorney at Law, Berea, Kentucky on August 1, 2007. Attachment A to this document lists the comments received and the Division's response to each comment. No changes were made as a result of the comments. The U.S. EPA has 45 days to comment on this proposed permit. If no comments are received from U.S. EPA during this period, the proposed permit shall become the final permit.

ATTACHMENT A

Response to Comments

Comments on the Paradise Fossil Power Plant (TVA) Draft Title V Air Quality Permit submitted by Robert Ukeiley, Attorney at Law, Berea, Kentucky, on behalf of Kentucky Heartwood, the Center for Biological Diversity, the Sierra Club, Hilary Lambert, and Preston Forsythe.

By letter dated August 1, 2007, Robert Ukeiley submitted comments on the draft Title V permit issued for the Tennessee Valley Authority's Paradise Fossil Plant. These comments were submitted on behalf of the Sierra Club, the Center for Biological Diversity, and two individuals. Except for the introductory paragraph, these comments are identical to comments submitted on September 15, 2004. To the extent still applicable, the Division's responses remain the same. However, some of the comments refer to provisions that were already corrected or no longer exist, so the Division's responses have been up-dated to reflect these situations.

Comment No. 1: PSD IS AN APPLICABLE REQUIREMENT FOR THE THREE MAIN BOILERS WHICH NEEDS TO BE INCLUDED IN THE PERMIT.

The Prevention of Significant Deterioration (PSD) provisions of the Clean Air Act's New Source Review program, 40 CFR 52.21, is an applicable requirement with regard to nitrogen oxides (NOx) emissions from TVA Paradise Units 1, 2, and 3 because TVA modified those units after 40 CFR 52.21 became effective but before Kentucky had an approved PSD program in its SIP. Therefore, the PSD provisions must be include in TVA Paradise's Title V permit.

Specifically, the modifications that made PSD applicable with regard to NOx are: The work was essentially the same at all three units. It included the replacement of all cyclone burners attached to each boiler and the replacement of the lower furnace walls, floor and headers. EPA Enforcement Ex. 273; EPA Enforcement Ex. 279, at 40-42 (Hekking's pre-filed testimony); TVA Ex. 4, at 23-26 (Golden's pre-filed testimony). Through these projects, TVA replaced all fourteen cyclone burners at each of Units 1 and 2 and replaced all twenty-three cyclone burners at Unit 3. In addition, TVA cut out and replaced the waterwall below 465 feet, including the lower headers and floor at Unit 1. TVA performed the same work at Unit 2. At Unit 3, in addition to the twenty-three cyclones, TVA replaced the waterwalls between 418 feet to 501 feet. TVA Ex. 4, at 23-25 (Golden's pre-filed testimony); EPA Enforcement Ex. 279, at 42 (Hekking's pre-filed testimony). The magnitude of the work at each of these units was significant. Indeed, TVA had to construct monorails at the front and rear walls for lifting and positioning the cyclones at each unit. EPA Enforcement Ex. 279, at 43 (Hekking's pre-filed testimony). TVA installed a trolley system to transport the cyclones in and out of the building, and TVA constructed rigging inside the furnace to assist in attaching the wall panels and floor panels. Id. After approval from the Board of Directors and after years of planning, the central office's Fossil and Hydro Power Division performed work on these units sequentially. [FN7] TVA implemented the work at Unit 3 first, beginning in the Fall of 1984 and requiring the unit to be shut down for six months. It then worked on Unit 1, shutting it down for approximately 6.5 months beginning in March of 1985. Finally, TVA performed the work on Unit 2 beginning in November of 1985 and lasting 4.5 months. In each case, the units were shut down for periods well beyond the four weeks typical of scheduled maintenance outages. The work at Unit 1 and 2 required the replacement

of approximately 18.5% of the total tubing in the boiler. TVA Ex. 4, at 23, 25 (Golden's pre-filed testimony). TVA replaced approximately 19.4% of the total tubing in Unit 3's boiler. Id. at 26. In re: Tennessee Valley Authority, 9 E.A.D. 357, 2000 WL 1358649 (EPA ALJ Sept. 15, 2000) at Appendix A, p. 108-109. In support of our claim that PSD for NOx is an applicable requirement, we hereby incorporate by reference all of the evidence, including the transcripts of the live testimony, from In re: Tennessee Valley Authority, 9 E.A.D. 357, 2000 WL 1358649 (EPA ALJ Sept. 15, 2000).

The fact that the United States Court of Appeals for the Eleventh Circuit subsequently found that the Administrative Compliance Order issued to TVA was facially unconstitutional is not relevant to this comment. We are saying that if you review the information that EPA Enforcement presented to the EAB during the course of the proceeding in light of the arguments made by EPA Enforcement and even use the emission test more favorable to TVA (actual to projected actual) and use the PSD regulations that we applicable at the time of the modification, you will independently determine that there was indeed a major modification at all three units at TVA Paradise so that PSD applies to those units for NOx. [Footnote 1: We are not saying that the "actual to projected actual" test is legally mandated. We are merely saying that even using this test, which is the most favorable to TVA, you will still find a significant increase in NOx.] It is important to remember that the Eleventh Circuit's decision was based on facial analysis of Administrative Compliance Orders which does not describe any particular process for its issuance. However, in the TVA case, TVA was actually given extensive process to try to defend its case. See e.g. In re: Tennessee Valley Authority, 9 E.A.D. 357, 2000 WL 1358649 (EPA ALJ Sept. 15, 2000) at 8. Even after this trial type process, the evidence showed that TVA had indeed performed major modifications at TVA Paradise. Therefore, the Title V Permit must include BACT limits for Units 1, 2 and 3 for NOx. We suggest that you set a temporary BACT limit of 0.085 lbs/MMBtu NOx for Unit 1, 0.1 lbs/MMBtu NOx for Unit 2 and 0.15 lbs/MMBtu based on a thirty day rolling average. The limits for Units 1 and 2 are based on TVA Paradise's actual emissions during the 2002 ozone season. See Exhibit 1. Obviously, what a particular unit achieves is achievable. Our purposed limit for Unit 3 is based on the NSPS limit. These temporary limits should go into effect immediately and should apply year round. The final BACT limits will be significantly lower but may require construction in order to comply. The Title V permit should also include a compliance schedule which requires TVA to submit a full PSD application within 3 months of the issuance of the permit. To the extent that pre-construction monitoring is necessary, TVA should be given additional time to complete its pre-construction monitoring. While this is an aggressive schedule, the people of Kentucky should not be forced to endure TVA Paradise's illegal pollution any longer than necessary.

Division's response:

The Division is aware of the current enforcement action against TVA. EPA initially pursued TVA for alleged NSR violations through the Administrative Compliance Order (ACO) process. However, in June 2003 a three-judge panel of the 11th Circuit Court of Appeals ruled that instead of following the ACO process EPA must "prove the existence of a CAA violation in district court, including the alleged violation that spurred EPA to issue the ACO in this case." [Tennessee Valley Authority v. Whitman, 336 F.3d 1236, 1260 (11th Cir. 2003)]. U.S. EPA sought review of that decision in the U.S. Supreme Court. In May 2004 the Supreme Court declined to grant EPA's request for review of the 11th Circuit ruling. [Leavitt v. Tennessee Valley Authority, 124 S.Ct. 2096 (2004)]. To date, there is no judicial

determination of the merits of TVA's alleged NSR violations.

The U.S. EPA considers this an active enforcement case and is proceeding. Upon settlement or judicial ruling the Division will incorporate those terms and conditions into this permit.

Comment No. 2: *THE PERMIT SHOULD INLCUDE A COMPLIANCE SCHEDULE TO REQUIRE THE SCRs TO BE OPERATED YEAR ROUND PURSUANT TO* 401 KAR 50:055 SECTION 2(5).

401 KAR 50:055 SECTION 2(5) provides that: at all times, including periods of startup, shutdown and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Division which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

In the case of Sierra Club v. EPPC and TGC, LLC, FILE NO. DAQ-26003-037 FILE NO. DAQ-26048-037, the law firm of Hunton and Williams, a noted utility industry law firm, took the position that 401 KAR 50:055 Section 2(5) and similar regulations in other states would require the year round operation of SCRs once they are installed. DAQ seemed to support Hunton and Williams position on this issue. However, a review of the information on the US EPA Air Markets Division web page, which is hereby incorporated by reference, indicates that TVA does not run the SCRs on Paradise year round. Therefore, the permit should include a compliance schedule that requires TVA to operate the SCRs on Paradise year round.

Section B.7(a) of the draft permit has some language that does not appear in 401 KAR 50:055 Section 2(5). It states that the source shall operate control equipment to maintain compliance with permitted emission limits. As long as it is clear that Section B.7(a) is a separate requirement that has no bearing on requirement to also comply with 401 KAR 50:055 Section 2(5), Section B.7(a) does not present any problems. However, if Section B.7(a) is meant to limit the applicability of 401 KAR 50:055 Section 2(5), then Section B.7(a) must be removed or altered for there is no legal basis to such an interpretation.

Division's response:

The SCR's are not subject to an applicable standard other than 401 KAR 51:160, NOx requirements for large utility and industrial boilers. 401 KAR 50:055, Section 2, Compliance with Standards and Maintenance Requirements, applies to sources subject to an emission standard. The only standard applicable to these units is that they have sufficient NOx allowances to address emissions during the ozone control period of May through September of each year. There is no requirement for TVA to operate their SCRs during the ozone control period, since they could instead purchase allowances to comply with 401 KAR 51:160. As there is no requirement in the permit for TVA to operate the SCRs, and there is no permit limit that requires operation of the SCRs in order to preclude the applicability of an air pollutant standard, 401 KAR 50:055, Section 2(5) does not apply.

Comment No. 3: PSD IS APPLICABLE TO EMISSION UNITS GACT7, GACT8, GACT 10 AND GACT 11.

To begin with the draft permit does not state that the conditions in Section B for Emission Units GACT7 or GACT8 or in Section D(3) is to limit the applicability of PSD. However, the SOB does so state. The permit should be made clear to state that this condition is to limit the applicability of PSD if that is ultimately what this condition requires. However, it appears that this synthetic minor cap for these units is not currently being met and is impossible to meet. Section B, Condition 2(a) sets a limit for the three units conveying transfer point, silo loading, and surge hopper and weigh hopper of 632 tpy PM (51.4 lbs/hr + 51.4 lbs/hr + 41.6 lbs/hr * 8760 hr/yr / 2000 lbs/ton = 632.472 tpy). However, the synthetic minor cap needs to be at 25 tpy which would equate to approximately 1.9 lbs/hr limit for each of these emission units. Even this limit of 1.9 lbs/hr would not include fugitive emissions from EQPT16 Limestone Receiving, EQPT18 Limestone Stock-out and Storage, and EQPT20 Limestone Silo Unloading which also must be included in the synthetic minor cap. See 401 KAR 51:017 § 8(c). Furthermore, the synthetic minor cap would need to include a limit of both PM at 25 tpy and PM10 at 15 tpy. See Id. At § 22. See also Exhibit 2 at Page 2, Comment 5 (KY DAQ states "Both Pm and PM10 are regulated in the Kentucky PSD Regulation). Because there is no evidence that GACT7 and GACT8 have or could meet these limits of 25 tpy PM and 15 tpy PM10, these sources constitute a major modification. Therefore, the permit should include a compliance schedule to require TVA to submit a PSD permit application for these sources. [Footnote 2: This also means that other facilities in Muhlenberg County, such as Peabody's Thoroughbred Generating Station should have to re-submit there [sic] PM increment modeling as GACT7 and GACT8 established the minor source baseline date for PM in Muhlenberg County but Peabody's modeled [sic] was based on the minor source baseline date being established by Thoroughbred Generating Station.] Finally, GACT10 and GACT11 should be also be considered part of the major modification that involved GACT7 and GACT8. Although construction is staggered, all of these units are obviously all part of the same project. Thus, the permit should also contain a compliance schedule that requires GACT10 and GACT11 to be part of the PSD permit application, which TVA is required to submit. [Footnote 3: We will note for the record that all of the emission limits and standards for GACT7, GACT8, and GACT11 including Condition D(3) are not enforceable as a practical matter and do not contain monitoring and reporting to assure compliance. For example, there is no performance testing required and no CEMS or COMS required.]

Division's response:

Contrary to the assertion, the draft Permit does state that the limits for GACT7 (Emission Units 43-45, 49-51) and GACT8 (Emission Units 41, 42, 46-48, and 52) are to preclude applicability of 401 KAR 51:017, Prevention of Significant Deterioration ("PSD"). The fact that the hourly emission limits multiplied by 8760 hours per year do not equate to the annual limits is not unusual. Regardless, both limits are required to be met, and whether or not the source chooses to meet an annual limitation by reducing the processing rate or limiting hours of operation is immaterial.

Also contrary to the assertion, EQPT16 (Emission Units 41 and 42), EQPT18(Emission Unit 52), and EQPT20 (Emission Units 46-48) are included in the 25 ton cap. With respect to the history of these emission units, TVA obtained a NSR permit on 8/17/1979 based on an application submitted 11/2/1978. This was for the coal washing plant. Emissions were not

subject to a full PSD/NSR review at that time because the construction was limited to less than 50 tons/year, 1000 lbs/day and 100 lbs of total suspended particulates. This action was performed under a previous version of PSD/NSR regulations, when the applicable threshold for uncontrolled emissions was 50 tons.

> *A Federal Consent decree required TVA to install control equipment for the control of particulate and sulfur dioxide emissions. TVA had to build support facilities (limestone handling). These facilities were built without a permit from Kentucky, under a federal order. Operation at the allowable and actual hourly emission rates would have resulted in an annual particulate emission rate of more than 25 tons per year. Operating permit O-86-75 was conditioned to limit annual emissions rates to less than 25 tons per year, to preclude applicability of PSD/NSR. The limit established by O-86-75 remains in effect for particulate emissions.*

GACT10 and GACT11 are not considered part of GACT7 and GACT8 because these units are associated with a new limestone handing system and the new scrubber on Unit 3 constructed over 20 years later. A construction permit application for this limestone handling system was submitted to the Division on March 3, 2003 and approved on August 6, 2003. The GACT10 and GACT11 project will primarily support the Unit 3 scrubber, but will have redundant capacity that can be used to feed the Unit 1 and 2 scrubbers when needed.

Comment No. 4: THERE IS NO MONITORING FOR OPACITY.

The Statement of Basis (SOB) states that Method 9 is of questionable use for TVA Paradise Boilers 1 and 2. However, the SOB also admits that there is no other monitoring in place for the opacity limit. Title V and its implementing regulations require that there be monitoring in place. Thus, the draft permit's lack of monitoring renders the permit deficient. Condition G(a)18 must be removed as it would allow the inclusion of monitoring for opacity without public participation. Rather, this permit needs to include monitoring and reporting for compliance with the opacity limit for Boilers 1 and 2. 40 CFR Part 51, Appendix P requires TVA Paradise to have a continuous opacity monitoring system (COMS) for each of the main boilers. Therefore, the Title V permit must require a COMS and the COMS should be used to monitor compliance with the opacity limit for Units 1 and 2. [Footnote 4: The Permit must also require a CEMS for NOx.] Furthermore, for Unit 3, the draft permit requires a Method 9 test to monitor for opacity compliance "as required by the division." This monitoring is not sufficient to assure compliance. To begin with, Method 9 cannot be used at night or when there is cloud cover. Thus, there is no assurance of compliance with the opacity limit for at least a third and probably two-thirds of the time. In addition, there is no specification of the frequency of the Method 9 test. If there is no specification of the frequency, then there is not adequate monitoring to assure compliance. As with Units 1 and 2, there is no logical reason to not specify that COMS shall be used to assure compliance with the opacity limit for Unit 3. As to the CAM requirement for opacity, again, there is no defensible reason to require a Method 9 test if the COMS shows an exceedance. Again, a Method 9 test cannot be done at night or in cloudy weather. In addition, the Method 9 test will be done after the COMS violation so that the Method 9 test will not provide information about whether there was a violation at the time that the COMS reading demonstrated a violation. Rather, CAM should be simply based on COMS. Furthermore, as to the CAM requirement for PM, PS 11 should be used. An one time stack test and COMS correlation is

not sufficient to account for changes at the plant, especially changes in the quality of the coal being burned..

Division's response:

The assertion that continuous opacity monitors (COMs) must be installed and used on Paradise Units 1 and 2 in accordance with 40 C.F.R. Part 51, Appendix P, is incorrect. Section 6.1 of Appendix P of the same regulation expressly provides that ***alternative*** *monitoring requirements may be prescribed if a specified monitoring device "would not provide accurate determinations of emissions (e.g., condensed uncombined water vapor may prevent an accurate determination of opacity using commercially available continuous monitoring systems)." Units 1 and 2 are scrubbed and have wet plumes, and consistent with the Agreed Order, Permit Condition G (a) 18 requires TVA to propose an alternative method within 90 days of issuance of the permit.*

With reference to the adequacy of Reference Method 9, 401 KAR 50:055, Section 2(3) specifies that compliance with opacity standards shall be determined by Reference Method 9.

With reference to the frequency of Unit 3 opacity testing, permit condition 3.d requires Reference Method 9 tests at least once every 14 boiler operating days, or more frequently if requested by the Division.

CAM requirements will be applicable to the unit upon renewal of the initial Title V permit [40 CFR 64]. The request that COM readings be used in lieu of Method 9 to determine compliance is contrary to 401 KAR 50:055, Section 2(3) as noted above. There are no existing regulatory requirements for continuous monitoring for particulate matter in accordance with Performance Specification 11, which is requested for Emission Units 1 and 2. Concerns about changes in coal quality are unfounded, since if lower ranked coals were used, it would be in violation of permit condition 3.b., which requires that testing be conducted under conditions representative of maximum emissions potential.

Comment No. 5: *THE PM MONITORING IS NOT SUFFICIENT*

The permit does not specify a method for the required PM stack tests for the main boilers. The permit must specify a PM test method which will test for filterable and condensable PM. See Exhibit 2 at Page 3, Comment 6. It seems Method 202 would be appropriate. In addition, the Opacity limit should be re-adjusted downward if any opacity reading is lower than 61% during the stack test.

Division's response:

401 KAR 61:015, Section 7 specifies Reference Method 5.

There is no regulatory basis for an adjustment of the 61% opacity standard for Unit 1 or the 50% opacity standard for Unit 2. Further, the alternate opacity standards for these units were not established to set a minimum opacity surrogate for judging particulate matter performance. They were established at a level correlated to a particulate matter emission

rate, determined by stack testing, deemed to be well within the emission standard. Finally, Unit 1 and Unit 2 are tested quarterly to determine compliance with the particulate matter emission standard.

Comment No. 6: THE PARAMETERTIC (sic) MONITORING FOR THE FGD DOES NOT APPEAR TO BE SUFFICIENT

Condition B.4(g) for Unit 1 allows the use of pump amperage as a surrogate for flow rate of make-up scrubbing liquor. It would seem that the flow rate could be affected by factors other than the pump amperage such as physical damage to the pump. Monitoring the actual flow rate seems to be the better approach.

Division's response:

Apart from asserting that flow rates could be affected by factors other than pump amperage, no technical support is provided for this comment. The reliable technical way to conduct periodic monitoring for particulate matter performance on Unit 1 and Unit 2 is to monitor the scrubber pump motor amps. The motors that drive the pumps that deliver scrubber slurry to the venturi sections on each unit do so at a consistent power consumption rate. This rate is tracked by monitoring the pump motor amperage level. Changes in performance correlate to changes in pump motor power consumption rate and this would be indicated by a change in amperage level.

The use of flow monitors in this application would not yield a more accurate measure of flow rate than currently provided by the pump motor amperage reading. There are not appropriate sections of piping on the discharge side of the scrubber slurry pumps to take accurate flow monitor readings. Flow monitors require laminar flow and without such will report fluctuating flow measurements. Thus improperly installed flow monitors would provide only an indication of flow that would be inferior to simply monitoring pump amperage.

Comment No. 7: *MANY EMISSION UNITS DO NOT HAVE LIMITS OR STANDARDS THAT ARE ENFORCEABLE AS A PRACTICAL MATTER AND DO NOT HAVE MONITORING AND REPORTING TO ASSURE COMPLIANCE*

For emission units Comb4, Comb5, EQPT36, and EQPT22, there needs to be monitoring for the opacity limit. Also, AP-42 should not be the basis of compliance demonstration. Rather, the permit should require periodic stack tests to obtain site specific data. The PM limit for GACT4 is based on a 99.99998% control. Yet, there is no monitoring to assure compliance with this level of control. A strict monitoring program must be but [sic] in place to assure compliance with a 99.99998% control efficiency. Also, there is no monitoring to assure compliance with the opacity limit for GACT4. For GACT6, Condition 2(a) is not enforceable as a practical matter as it does not specify control measures that must be in place. There is also no monitoring to assure compliance with Condition 2(b). Finally, the narrative should explain why EPQT12 is rated at 3,000 tons per hour while all of the other equipment is rated at 2,000 tons per hour. For EQPT15, there is an operating limit of 5 tons/hr as well as 350 tons/year. However, the permit only requires monitoring of the processing on a monthly basis. Monitoring on a monthly basis is not adequate to assure compliance with a hourly

processing rate. In addition, there is no monitoring or testing for the opacity and particulate limits. There is no authority for assuming compliance. Rather, the applicable regulations require monitoring to assure compliance. Monitoring should be achieved using a COMS and a PM CEMS in compliance with PS 11.

Division's response:

With respect to COMB4 (Emission Units 4 and 5), COMB5 (Emission Unit 6), EQPT22 (Emission Units 7-12) and EQPT36 (Emission Units 13-15), the permit does require opacity monitoring in paragraph 3.Testing Requirements, which requires a Reference Method 9 evaluation at least once every 7-boiler operating days.

The origin of the assertion that the PM limit for GACT4 (Emission Units 20, 21, 34, 37, and 38) is based on 99.99998% control efficiency is unclear. The correct control efficiencies are set forth in the original Title V application that TVA submitted in November 1996. These estimates are found in Table 4.2 Paradise Fossil Plant: Maximum Particulate Matter (PM) Emissions from Significant Sources for the Solid Fuel Handling Process. For the Three Coal Breakers and Five Conditioners (Emission Point 16) the control efficiency ranged from 85% to 97% depending on the control technology applied at the various coal processing points. For Coal Conveying and Bunker Room (Emission Point 17) the control efficiency ranged from 70% to 91% depending on the control technology applied to the various coal transfer points. The revised application shows control efficiencies ranging from 81-97%.

The draft Permit identifies enforceable compliance methods for Emission Units 20, 21, 37, and 38. The amount of material processed must be monitored and recorded. This provides a practical means of enforcing the specified emission requirements. Good operating practices and maintenance of this equipment are adequate to ensure compliance with the particulate matter and opacity standards. With respect to Emission Unit 34, weekly visual observations are required and if visible emissions are seen, a Reference Method 9 evaluation is required.

With respect to GACT6 (Emission Units 19 and 36), both the Statement of Basis and draft Permit specify the control measures. The 3000 tons/hour rating for EQPT12 (Emission Unit 19), Receiving and Reclaim Hoppers, is simply a description of its capacity as provided in the application. It is not typical for coal handling to be a continuous, uninterrupted process. For example, there is no expectation that coal be crushed or transferred to longer term storage immediately upon receipt in a continuous fashion, so there is no reason to expect maximum operating rates to be identical for each emission unit.

With respect to EQPT15 (Emission Units 53-54)), Two Lime Storage Silos, these units are decommissioned and are no longer in service, as noted in both the Statement of Basis and the draft Permit.

Comment No. 8: GACT5 SYNTHETIC MINOR CAP IS NOT SUFFICIENT AND THERE IS NOT SUFFICIENT MONITORING

For GACT5, the SOB and the draft permit do not appear to be consistent. The SOB states that the coal washing unit was build [sic] under the old PSD regulations that only required a 100 lb/hr,

1000lb/day, and 50 tn/yr limit on particulate matter emissions. Yet Condition 2(a) states that the PM limits are imposed to prevent the applicability of the current PSD regulations, 401 KAR 51:017. However, if this is the case, the limit would have to be 25 tpy PM and 15 tpy PM10. See 401 KAR 51:017 § 22. This confusion is exacerbated by the fact that the description of this unit does not include the year it commenced construction, although for other units, the permit does include the date that construction commenced. This needs to be clarified and corrected to 25 tpy PM and 15 tpy PM10 if this is indeed a condition to prevent the applicability of 401 KAR 51:017. See Id. At § 22. In addition, there is no monitoring to assure compliance with the opacity and PM limits and the PM limit is not enforceable as a practical matter which synthetic minor caps must be. As explained above, there is no authority to allow for the assumption of compliance. Rather, there must be monitoring and reporting to assure compliance. Again, we believe that COMS and a PM CEMS, in compliance with PS 11, are appropriate to assure compliance, especially considering that the synthetic minor cap is set so close to the PSD significant level. Finally, the manufactures specifications referenced in Condition 7(a) must be specifically identified in the permit and a copy of these specifications must be included in the permit folder. There must be monitoring and reporting to assure compliance with this requirement.

Division's response:

Permit condition 2.a. does not refer 401 KAR 51:017. It references 401 KAR 51:050, Section 3 and Permit No. O-87-012. The dates of construction are listed in both the draft Permit and Statement of Basis. The draft permit requires that the amount of coal processed and hours of operation be monitored. This provides a practicably enforceable means of tracking compliance with the applicable limitations.

Comment No. 9: THERE MUST BE REPORTING OF ANY MONITORING RESULTS

Condition F.5 must require the submission of all COMS and CEMS data. See 42 U.S.C. § 7661c(a); 40 C.F.R. § 70.6(a)(3)(iii)(A)

Division's response:

Section F of the draft permit addresses the requirements and is consistent with 42 U.S.C. § 7661c(a) and the EPA regulation implementing this provision, 40 C.F.R. 70.6(a)(3)(iii)(A).

Comment No. 10: THE NEW BOILER MACT IS AN APPLICABLE REQUIREMENT

US EPA recently finalized a MACT standard for Industrial, Commercial, and Institutional Boilers and Process Heaters. See 69 Fed. Reg. 55217 (Sept. 13, 2004). This new MACT is an applicable requirement for COMB4 (26) Unit 1 Building Heat Boiler and Unit 2 Building Heat Boiler, COMB5 (28) Unit 3 Building Heat Boiler, EQPT22 (29a) Eight Dravo Heaters, and EQPT36 (29b) Three Dravo Heaters. Therefore, the new MACT should be included in the permit. The permit should identify which particular requirements in the new MACT apply to each emission unit in order to be practically enforceable.

Division's response:

The original Statement of Basis does indicate that Emission Units 4, 5, and 6 are subject to 40 CFR Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters ("Boiler MACT"). As noted in the Division's previous response to this comment, Emission Units 7-15 are not subject to the Boiler MACT. This is somewhat moot now, since the Boiler MACT was vacated and remanded to the EPA on June 8, 2007. The revised Statement of Basis now indicates the current status of Subpart DDDDD and the permit has been changed to reflect the court's vacature.

Comment No. 11: THE STATEMENT OF BASIS DOES NOT PROVIDE A FACTUAL AND LEGAL BASIS FOR THE PERMIT CONDITIONS.

The Statement of Basis (SOB) is inadequate. For example, the SOB does not provide any explanation for the applicability of PSD to Boilers 1, 2, and 3. It makes no mention of the EPA's enforcement action against TVA Paradise and the EAB's decision in that case. The SOB says that the three units have "redistributed SO2 limits" but does not provide the factual or legal basis for these limits. The SOB does not explain the legal or factual basis for Condition B.7(a). The SOB does not provide the factual and legal basis for the PM stack testing requirements of the COMS and Method 9 testing. The SOB did not explain the factual and legal basis for allowing pump amperage to be a surrogate for flow rate for the FGDs.

Division's response:

Issues related to PSD, PM stack testing, and pump amperage vs. flow rate were answered in response to Comments 1, 5, and 6. The Statement of Basis does not say anything about "redistributed SO2 limits" but does identify the basis for the SO2 limits, which is 40 CFR 52.939(c)(49) and TVA's agreement to reduce SO2 emissions to 1.2 lbs/MMBtu when the scrubber is operating and 3.1 lbs/MMBtu when the scrubber is bypassed.

Comment No. 12: THE PERMIT MUST CONTAIN LANGUAGE THAT ALLOWS FOR THE USE OF ANY CREDIBLE EVIDENCE.

The Permit must contain language that allows for the use of any credible evidence. EPA supports the inclusion of credible evidence language in all Title V permits. As explained by the Acting Chief of US EPA's Air Programs branch: It is the United States Environmental Protections Agency's position that the general language addressing the use of credible evidence is necessary to make it clear that despite any other language contained in the permit, credible evidence can be used to show compliance or noncompliance with applicable requirements. . . . [A] regulated entity could construe the language to mean that the methods for demonstrating compliance specified in the permit are the only methods admissible to demonstrate violation of the permit terms. It is important that Title V permits not lend themselves to this improper construction.

Letter from Cheryl L. Newton, Acting Chief, Air Programs Branch, EPA, to Robert F. Hodanbosi, Chief, Division of Air Pollution Control, Ohio Environmental Protection Agency, dated October 30, 1998. While anyone may rely on all credible evidence regardless of whether this condition appears in the permit, DAQ should include credible evidence language in the permits and permit template to

make the point clear. Specifically, EPA has recommended that the following language be included in all Title V permits: Notwithstanding the conditions of this permit that state specific methods that may be used to assess compliance or noncompliance with applicable requirements, other credible evidence may be used to demonstrate compliance or noncompliance. Letter from Stephen Rothblatt, Acting Director, Air and Radiation Division, US EPA, to Paul Deubenetzky, Indiana Department of Environmental Management, dated July 28, 1998.

Division's response::

The Statement of Basis correctly describes the status of the Credible Evidence Rule ("CER") in Kentucky. Furthermore, as noted by letter dated June 29, 2007 from Stephen L. Johnson, Administrator of the US EPA to Mr. Robert Ukeiley, Subject: Response to Petition for Rulemaking on Credible Evidence Revisions in Kentucky:

> *"Pursuant to 40 C.F.R §51.212, the SIP must merely not preclude the use of credible evidence - it need not affirmatively allow for the use of such evidence. As stated in the CER preamble, the CER was meant to clarify what was already the status quo -that compliance (and noncompliance) with the CAA, including SIPs, could be demonstrated through the use of any credible evidence. In this case, EPA interprets Kentucky's SIP, consistent with the 1997 CER and, specifically 40 C.F.R §51.212(c), as not precluding any entity, including EPA, citizens, or state, from using any credible evidence to enforce emission standards, limitations, conditions, or any other provision of the Kentucky SIP (footnote 4 - The Kentucky SIP also includes language indicating that Kentucky can use "any information" to enforce its SIP. See, e.g., 40(sic) Kentucky Administrative Regulations (KAR) 50:055 (concerning compliance); and 401 KAR 50:060 (concerning enforcement). These two provisions were incorporated into the Kentucky SIP on May 4, 1989 (54 Fed. Reg. 19169) and July 12, 1982 (47 Fed. Reg. 30059), respectively. Further, Kentucky's regulations include the incorporation by reference of 40 C.F.R. §§60.11 and 61.12 in 401 KAR 60:005, Section 2(1); and 401 KAR 57:002, Section 2(1) respectively. These provisions are not in the Kentucky SIP because regulations pertaining to new source performance standards and hazardous air pollutants are not included as part of the SIP for any state."*